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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,205	12/07/2001	Philip P. Carvey	2390.1006-009	9706

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EXAMINER	
LEE, ANDREW CHUNG CHEUNG	
ART UNIT	PAPER NUMBER
2476	

MAIL DATE	DELIVERY MODE
12/18/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/021,205	CARVEY ET AL.	
	Examiner	Art Unit	
	Andrew C. Lee	2476	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 December 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5,7,10 and 15-18* is/are pending in the application.

4a) Of the above claim(s) *2,4,6,8-9,11-14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5,7,10,15,-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 2, 4, 6, 8 – 9, 11 – 14 had been canceled.

2. Claims 15 – 18 are newly added.

3. Claims 1, 3, 5, 7, 10, 15 – 18 are pending.

Claim Objections

4. Claims 15, 16, 17, 18 are objected to because of the following informalities:

With regard to claims 15, 16, 17, 18, the indefinite article "A" should be changed to definite article "The". Since the claims are referring to the independent claims. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 3, 5, 7, 10, 15, 16, 17, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al. (US 20040037278 B1), and Bare (US 6580715 B1) in view of Ahmadi et al. (5233604).

Regarding claim 1, Wong et al. disclose a network router to route data packet *(Fig. 1, element 10, packet switch as network router; para. [0012], [0013])*, except

Internet Protocol (IP) data packet comprising: a plurality of trunk ports, including a composite port of plural ports to plurality trunks which serve as a composite trunk to a common destination *("at least one trunk formed by a plurality of aggregated network links; para. [0012],[0013]);* a routing fabric for transfer of data packets between trunk ports *("switching fabric" as routing fabric; Fig. 2, element 10 switch fabric, para. [0044]),* except IP data packets and an output port selector *("a network output port arbitration sub-system" as an output port selector; para. [0052], Fig. 3A)* configured to use a destination address of the data packets to select an output port for a packet from a composite port *("a network output port arbitration sub-system" as an output port selector; para. [0042], [0052], Fig. 3A),* except a destination IP address of the IP data packets, the output port selector balancing load across the trunks of a composite trunk *("a network output port arbitration sub-system" as an output port selector; para. [0052], Fig. 3A; "the loading of each of the network links of each of the trunked links is proportional to the number of packets transmitted to the particular link, and is determined in accordance with the type of load balancing scheme" as* balancing load across the trunks of a composite trunk*; Fig. 2, element 168, para. [0040], [0044], [0048]; [0052])* except by dynamically weighting a number of entries to each route to the common destination. Wong et al. do not disclose explicitly IP data packets and a destination IP address of the IP data packets.

Bare in the same field of endeavor teaches IP data packets and a destination IP address of the IP data packets *(col. 76, lines 31 – 45).* It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wong et al.

to include IP data packets and a destination IP address of the IP data packets as taught by Bare in order to provide network switch devices and associated switch to switch protocols which permit the operation of multiple links throughout the network involving multiple switches, and which provide for improved utilization of the aggregate bandwidth of all paths in the network *(as suggested by Bare, see col. 6, lines 1 – 5).*

The combined system of Wong et al. and Bare does not disclose explicitly by dynamically weighting a number of entries to each route to the common destination.

Ahmadi et al. in the same field of endeavor teach disclose by dynamically weighting a number of entries to each route to the common destination (*Abstract; Fig. 3, Fig. 4, Fig. 7, col. 4, lines 46 – 68, col. 6, lines 17 – 38).* At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Wong et al. and Bare to include the features of dynamically weighting a number of entries to each route to the common destination as taught by Ahmadi et al. One of ordinary skill in the art would be motivated to do so for providing optimum path selection for connections between two nodes in such system *(as suggested by Ahmadi et al., see col. 1, lines 8 – 9).*

Regarding claim 3, Wong et al. disclose a network router to route data packet *(Fig. 1, element 10, packet switch as network router; para. [0012])*, except Internet Protocol (IP) data packets comprising: a plurality of trunk ports, including a composite port of plural ports to plural trunks which serve as a composite trunk to a common destination *("at least one trunk formed by a plurality of aggregated network links; para.*

[0012], [0013]); a routing fabric for transfer of data packets between trunk ports *("switching fabric" as routing fabric; Fig. 2, element 10 switch fabric, para. [0044])*, except IP data packets; and an output port selector *("a network output port arbitration sub-system" as an output port selector; para. [0052], Fig. 3A)* configured to use a destination address of the data packet to select an output port for the data packet from a composite port according to a table *("a network output port arbitration sub-system" as an output port selector; para. [0042], [0052], Fig. 3A)*, except a destination IP address of the IP data packet and IP data packets, and routes in the table being dynamically rewritable for a load to approach balance across the trunks.

Wong et al. do not disclose explicitly IP data packets and a destination IP address of the IP data packets.

Bare in the same field of endeavor teaches IP data packets and a destination IP address of the IP data packets *(col. 76, lines 31 – 45)*. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wong et al. to include IP data packets and a destination IP address of the IP data packets as taught by Bare in order to provide network switch devices and associated switch to switch protocols which permit the operation of multiple links throughout the network involving multiple switches, and which provide for improved utilization of the aggregate bandwidth of all paths in the network *(as suggested by Bare, see col. 6, lines 1 – 5)*.

The combined system of Wong et al. and Bare does not disclose explicitly routes in the table being dynamically rewritable for a load to approach balance across the trunks.

Ahmadi et al. in the same field of endeavor teach disclose by routes in the table being dynamically rewritable for a load to approach balance across the trunks *(Abstract; Fig. 3, Fig. 4, Fig. 7, element 38 network topology database of Fig. 3 interpreted as the table, col. 4, lines 16 – 29, lines 46 – 68, col. 6, lines 17 – 38; Fig. 10, col. 8, lines 55 – 68, col. 9, lines 1 – 4).* At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Wong et al. and Bare to include the features of routes in the table being dynamically rewritable for a load to approach balance across the trunks as taught by Ahmadi et al. One of ordinary skill in the art would be motivated to do so for providing optimum path selection for connections between two nodes in such system *(as suggested by Ahmadi et al., see col. 1, lines 8 – 9).*

Regarding claim 5, Wong et al. disclose a method of routing data packets in a network *("a local area network switch including a plurality of network ports for transmitting and receiving packets to and from network nodes via network links"; para. [0012]),* except Internet protocol (IP) data packet comprising: identifying a destination of the data packets *("the packet having a source value and a destination address value indicating a destination node"; para. [0013]),* forwarding the data packets toward the destination on the selected trunk *(para. [0040], [0043]),* except IP data packet; selecting one of plurality trunks forming a composite trunk to the destination based on a destination address of the data packets *(para. [0042], [0052], Fig. 3A)*, except a destination IP address of the IP data packets, the trunk being selected *("the loading of*

each of the network links of each of the trunked links is proportional to the number of packets transmitted to the particular link, and is determined in accordance with the type of load balancing scheme" as adjustable weighting; paras. [0040], [0042]), except by dynamically weighting a number of entries to each route to the common destination.

Wong et al. do not disclose explicitly IP data packets and a destination IP address of the IP data packets.

Bare in the same field of endeavor teaches IP data packets and a destination IP address of the IP data packets *(col. 76, lines 31 – 45)*. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wong et al. to include IP data packets and a destination IP address of the IP data packets as taught by Bare in order to provide network switch devices and associated switch to switch protocols which permit the operation of multiple links throughout the network involving multiple switches, and which provide for improved utilization of the aggregate bandwidth of all paths in the network *(as suggested by Bare, see col. 6, lines 1 – 5)*.

The combined system of Wong et al. and Bare does not disclose explicitly by dynamically weighting a number of entries to each route to the common destination

Ahmadi et al. in the same field of endeavor teach disclose by dynamically weighting a number of entries to each route to the common destination (*Abstract; Fig. 3, Fig. 4, Fig. 7, col. 4, lines 46 – 68, col. 6, lines 17 – 38)*. At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Wong et al. and Bare to include the features of dynamically weighting a number of entries to each route to the common destination as taught by Ahmadi et al.

One of ordinary skill in the art would be motivated to do so for providing optimum path selection for connections between two nodes in such system *(as suggested by Ahmadi et al., see col. 1, lines 8 – 9).*

Regarding claim 7, Wong et al. disclose a method of routing data packets in a network ("a local area network switch including a plurality of network ports for transmitting and receiving packets to and from network nodes via network links"; para. [0012]), except Internet Protocol (IP) data packets comprising: identifying a destination of the data packets *("the packet having a source value and a destination address value indicating a destination node"; para. [0013])*, except IP data packets; selecting one of plural trunks forming a composite trunk to the destination based on a destination address of the data packets *(para. [0042], [0052], Fig. 3A)*, except a destination IP address of the IP data packets, the trunk being selected according to a table *(para. [0042], [0043])*, except routes in the table being dynamically rewritable for a load to approach balance across the trunks.

Wong et al. do not disclose explicitly IP data packets and a destination IP address of the IP data packets.

Bare in the same field of endeavor teaches IP data packets and a destination IP address of the IP data packets *(col. 76, lines 31 – 45)*. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wong et al. to include IP data packets and a destination IP address of the IP data packets as taught by Bare in order to provide network switch devices and associated switch to switch

protocols which permit the operation of multiple links throughout the network involving multiple switches, and which provide for improved utilization of the aggregate bandwidth of all paths in the network *(as suggested by Bare, see col. 6, lines 1 – 5).*

The combined system of Wong et al. and Bare does not disclose explicitly routes in the table being dynamically rewritable for a load to approach balance across the trunks.

Ahmadi et al. in the same field of endeavor teach disclose by routes in the table being dynamically rewritable for a load to approach balance across the trunks *(Abstract; Fig. 3, Fig. 4, Fig. 7, element 38 network topology database of Fig. 3 interpreted as the table, col. 4, lines 16 – 29, lines 46 – 68, col. 6, lines 17 – 38; Fig. 10, col. 8, lines 55 – 68, col. 9, lines 1 – 4).* At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Wong et al. and Bare to include the features of routes in the table being dynamically rewritable for a load to approach balance across the trunks as taught by Ahmadi et al. One of ordinary skill in the art would be motivated to do so for providing optimum path selection for connections between two nodes in such system *(as suggested by Ahmadi et al., see col. 1, lines 8 – 9).*

Regarding claim 10, Wong et al. disclose the limitation of a method of routing packets in a network *("a local area network switch including a plurality of network ports for transmitting and receiving packets to and from network nodes via network links";*

para. [0012]). Wong et al. also teach network is Ethernet and route packet through Ethernet.

Wong et al. do not disclose explicitly claimed wherein the network is the Internet and the packets are routed under an Internet protocol.

Bare in the same field of endeavor teaches the network is the Internet and the packets are routed under an Internet protocol *(col. 76, lines 31 – 45, Fig. 3, Fig. 13)*. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wong et al. to include the network is the Internet and the packets are routed under an Internet protocol as taught by Bare in order to provide network switch devices and associated switch to switch protocols which permit the operation of multiple links throughout the network involving multiple switches, and which provide for improved utilization of the aggregate bandwidth of all paths in the network *(as suggested by Bare, see col. 6, lines 1 – 5)*.

Regarding claims 15, 16, the combined system of Wong et al. and Bare does not disclose explicitly a network router, and a method claimed wherein dynamically weighting the number of entries favors a shortest route to the destination.

Ahmadi et al. in the same field of endeavor teach wherein dynamically weighting the number of entries favors a shortest route to the destination *(Abstract; Fig. 3, Fig. 4, Fig. 7, col. 4, lines 16 – 29, col. 1, lines 54 – 68, col. 2, lines 1 – 2; "the shortest path with the minimum hop count"; col. 7, lines 25 – 43)*. At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Wong et al. and Bare to include the features of wherein dynamically weighting the

number of entries favors a shortest route to the destination as taught by Ahmadi et al. One of ordinary skill in the art would be motivated to do so for providing optimum path selection for connections between two nodes in such system *(as suggested by Ahmadi et al., see col. 1, lines 8 – 9).*

Regarding claims 17, 18, the combined system of Wong et al. and Bare does not disclose explicitly a network router and a method claimed wherein a first dynamically rewritable route in the table is configured to be rewritten with a second dynamically rewritable route in the table.

Ahmadi et al. in the same field of endeavor teach wherein a first dynamically rewritable route in the table is configured to be rewritten with a second dynamically rewritable route in the table *(Abstract; Fig. 3, Fig. 4, element 38 network topology database interpreted as the table, col. 4, lines 16 – 29, lines 46 – 68).*

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Wong et al. and Bare to include the features of wherein a first dynamically rewritable route in the table is configured to be rewritten with a second dynamically rewritable route in the table as taught by Ahmadi et al. One of ordinary skill in the art would be motivated to do so for providing optimum path selection for connections between two nodes in such system *(as suggested by Ahmadi et al., see col. 1, lines 8 – 9).*

Response to Arguments

7. Applicant's arguments filed on 12/08/2009 with respect to claims 1, 3, 5, 7, 10, 15, 16, 17, 18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571)272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 2476
<1Qy10:12_14_09>

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